

IN THE CLAIMS:

1. (Currently Amended) A semiconductor light emitting device comprising:
a substrate;
a semiconductor multilayer structure formed on one of a plurality of a first main surfacee surfaces of the substrate, the semiconductor multilayer structure including a light emitting layer;
a first electrode and a second electrode formed on the semiconductor multilayer structure, power being supplied to the semiconductor multilayer structure through the first electrode and the second electrode so as to cause causing the light emitting layer to emit light;
and
a phosphor film covering at least a main surface of the semiconductor multilayer structure which faces away from the first main surface of the substrate[[;]] wherein
the semiconductor multilayer structure is divided into a plurality of portions by a division groove, and each of the plurality of portions is an independent light emitting element,
each of a plurality of light emitting elements have a diode structure, and includes an anode electrode and a cathode electrode, and an insulating film is formed on a side surface of each of the plurality of light emitting elements,
the plurality of light emitting elements are connected in series such that a cathode electrode of a light emitting element is connected to an anode electrode of a different light emitting element using a wire formed by a thin metal film formed on the insulating film, and
one of an anode electrode of one of the plurality of light emitting elements at a higher potential end of an array of the plurality of light emitting elements is the first electrode,

and one of a cathode electrode of one of the plurality of light emitting elements at a lower potential end of the array of the plurality of light emitting elements is the second electrode.

a first terminal and a second terminal formed on a second main surface of the substrate;

a first conductive member electrically connecting the first electrode to the first terminal; and

a second conductive member electrically connecting the second electrode to the second terminal.

2. (Currently Amended) The semiconductor light emitting device of Claim 1,

wherein

the semiconductor multilayer structure includes a light reflective layer between the light emitting layer and the one of the plurality of main surface of the substrate.

at least part of each of the first conductive member and the second conductive member is a plated through hole provided in the substrate.

3. (Currently Amended) The semiconductor light emitting device of Claim [[2]] 1,

wherein

the semiconductor multilayer structure is divided into a plurality of portions by a the division groove [[that]] is deep enough to reach the substrate, and

each of the plurality of portions is constituted as an independent light emitting element.

4. (Currently Amended) The semiconductor light emitting device of Claim 1 further comprising: 3, wherein

a first terminal and a second terminal formed on another one of the plurality of main surfaces of the substrate;

a first conductive member electrically connecting the first electrode to the first terminal; and

a second conductive member electrically connecting the second electrode to the second terminal.

the light emitting element has a diode structure, and includes an anode electrode and a cathode electrode;

a plurality of light emitting elements are connected in series in such a manner that a cathode electrode of a light emitting element is connected to an anode electrode of a different light emitting element using a wire formed by a thin metal film, and

an anode electrode of a light emitting element at a higher potential end of an array of the plurality of light emitting elements is constituted as the first electrode, and a cathode electrode of a light emitting element at a lower potential end of the array is constituted as the second electrode.

5. (Currently Amended) The semiconductor light emitting device of Claim [[1]] 4, wherein

at least a part of each of the first conductive member and the second conductive member is a conductive film formed on a side surface of plated-through hole provided in the substrate.

6. (Currently Amended) The semiconductor light emitting device of Claim 5,

wherein

~~the semiconductor multilayer structure is divided into a plurality of portions by a division groove that is deep enough to reach the substrate, and~~

~~each of the plated-through holes is located at a different corner of the substrate, a plurality of portions is constituted as an independent light emitting element.~~

7. (Currently Amended) The semiconductor light emitting device of Claim 6,

wherein

the plurality of light emitting elements are formed on locations aside from locations of the plated-through holes.

~~the light emitting element has a diode structure, and includes an anode electrode and a cathode electrode;~~

~~a plurality of light emitting elements are connected in series in such a manner that a cathode electrode of a light emitting element is connected to an anode electrode of a different light emitting element using a wire formed by a thin metal film, and~~

~~an anode electrode of a light emitting element at a higher potential end of an array of the plurality of light emitting elements is constituted as the first electrode, and a cathode electrode of a light emitting element at a lower potential end of the array is constituted as the second electrode.~~

8-13. (Cancelled)

14. (New) The semiconductor light emitting device of Claim 4, wherein at least part of each of the first conductive member and the second conductive member is a conductive film formed on a side surface of the substrate.
15. (New) The semiconductor light emitting device of Claim 1, wherein the substrate is highly resistant.
16. (New) The semiconductor light emitting device of Claim 1, wherein the semiconductor multilayer structure has a structure of epitaxial growth on the substrate.
17. (New) The semiconductor light emitting device of Claim 1, wherein the semiconductor multilayer structure is a semiconductor multilayer structure that has been epitaxially grown on a single-crystal substrate different from the substrate and transferred to the substrate.
18. (New) The semiconductor light emitting device of Claim 1 wherein the anode electrode for each of the plurality of light emitting elements includes a transparent electrode.
19. (New) The semiconductor light emitting device of Claim 2 wherein the light reflective layer is a distributed Bragg reflector layer.

20. (New) A lighting module comprising:
 - a mounting substrate; and
 - a semiconductor light emitting device defined in Claim 1 mounted on the mounting substrate.
21. (New) The lighting module of Claim 20, wherein the mounting substrate has a depression which includes a reflective film on a wall thereof, and the semiconductor light emitting device is mounted on a bottom of the depression.
22. (New) A lighting apparatus including a lighting module defined in Claim 20 as a light source.
23. (New) A display element including a semiconductor light emitting device defined in Claim 1 as a light source.
24. (New) A manufacturing method for a semiconductor light emitting device, comprising the steps of:
 - forming a semiconductor multilayer structure including a light emitting layer on one of a plurality of main surfaces of a substrate;
 - dividing the semiconductor multilayer structure into a plurality of portions each of which corresponds to a semiconductor light emitting device;
 - forming a phosphor film on and around each of the plurality of portions of the

semiconductor multilayer structure; and

dividing the substrate for each of the plurality of portions of the semiconductor multilayer structure.

25. (New) The method of Claim 24 further comprising the step of:
varying a percentage of phosphor in the phosphor film to vary a color temperature of a white light emitted by the semiconductor light emitting device.

26. (New) The method of Claim 24 further comprising the step of:
varying a thickness of the phosphor film to vary a color temperature of a white light emitted by the semiconductor light emitting device.